

Claims

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1. A method for controlling a transmitter of a portable radio communication apparatus for communication in a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the transmitter transmitting data bursts during one or more of said time slots in a frame, the method comprising monitoring at least one criterion associated with heat generated by the transmitter, providing a signal responsive to the at least one monitored criterion for controlling at least one output criterion of the transmitter.
 2. A method according to claim 1, wherein one of the at least one monitored criterion comprises the temperature of the transmitter.
 3. A method according to claim 1, wherein one of the at least one monitored criterion comprises the number of transmitted data bursts in a frame.
 4. A method according to claim 1, wherein one of the at least one output criterion comprises the power output of the transmitter.
 5. A method according to claim 4, wherein if the monitored criterion exceeds a predetermined limit then the power output of the transmitter is decreased.
 6. A method according to claim 5, wherein the maximum available power output of the transmitter is decreased by changing the power classmark of the portable radio communication apparatus.

7. A method according to claim 1, wherein one of the at least one output criterion comprises the number of data bursts transmitted in a frame.
8. A method according to claim 7, wherein if the monitored criterion exceeds
5 a predetermined limit then the number of data bursts transmitted in a frame is decreased.
9. A method according to claim 1, wherein the monitoring step is performed by the portable radio communication apparatus.
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10. A method according to claim 1, wherein the monitoring step is performed by the radio communication network.
11. A method for controlling a transmitter of a portable radio communication
15 apparatus for communication in a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the transmitter transmitting data bursts during one or more of said time slots in a frame, the method comprising monitoring the number of data bursts transmitted on time slots
20 in a frame, comparing the monitored number with a pre-determined limit, and changing the operation of the transmitter if the monitored number falls outside the pre-determined limit.
12. A method according to claim 11, wherein the monitoring of the number of
25 data bursts transmitted on time slots in a frame is performed over a predetermined period of time or pre-determined number of frames.
13. A method according to claim 11, wherein changing the operation of the transmitter comprises controlling the power output of the transmitter.

14. A method according to claim 13, wherein controlling the power output of the transmitter comprises changing the power classmark of the portable radio communication apparatus.
- 5 15. A method according to claim 11, wherein changing the operation of the transmitter comprises controlling the number of data bursts transmitted on time slots in a frame.
- 10 16. A method according to claim 15, wherein controlling the number of data bursts transmitted on time slots in a frame comprises decreasing the number of data bursts transmitted on time slots in a frame if the monitored number of transmitted data bursts exceeds a pre-determined limit.
- 15 17. A method according to claim 11, wherein the method steps are performed by the portable radio communication apparatus.
18. A method according to claim 11, wherein the method steps are performed by the radio communication network.
- 20 19. A method for controlling a transmitter of a portable radio communication apparatus for communication in a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the transmitter transmitting data bursts during one or more of said time slots, the method comprising monitoring the transmission power level of the communication apparatus and comparing the monitored transmission power level with a pre-determined limit and changing the maximum allowed transmission power level in response to the monitored transmission power level.
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20. A method according to claim 19, wherein the monitored transmission power level is compared with a pre-determined power transmission level and if the monitored transmission power level is above said pre-determined level then the maximum allowed output transmission power level is decreased by changing the power classmark of the portable radio communication apparatus.

21. A radio telephone system comprising a portable radio communication apparatus for communication in a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the apparatus having a transmitter for transmitting data bursts during one or more of said time slots in a frame, the system including monitoring means for monitoring at least one criterion associated with heat generated by the transmitter, at least one output criterion of the transmitter being responsive to the monitored criterion.

22. A radio telephone system according to claim 21, wherein one of the at least one monitored criterion comprises the temperature of the transmitter.

23. A radio telephone system according to claim 21, wherein one of the at least one monitored criterion comprises the number of transmitted data bursts in a frame.

24. A radio telephone system according to claim 21, wherein one of the at least one output criterion comprises the power output of the transmitter.

25. A radio telephone system according to claim 24, wherein if the monitored criterion exceeds a predetermined limit then the power output of the transmitter is decreased.

26. A radio telephone system according to claim 25, wherein the maximum available power output of the transmitter is decreased by changing the power classmark of the portable radio communication apparatus.
- 5 27. A radio telephone system according to claim 21, wherein one of the at least one output criterion comprises the number of data bursts transmitted in a frame.
- 10 28. A radio telephone system according to claim 26, wherein if the monitored criterion exceeds a predetermined limit then the number of data bursts transmitted in a frame is decreased.
29. A radio telephone system according to claim 21, wherein the portable radio communication apparatus includes the monitoring means.
- 15 30. A radio telephone system according to claim 21, wherein the radio communication network includes the monitoring means.
- 20 31. A radio telephone system comprising a portable radio communication apparatus for communication in a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the apparatus having a transmitter for transmitting data bursts during one or more of said time slots in a frame, the system including monitoring means for monitoring the number of data bursts transmitted on time slots in a frame, a comparator for comparing the monitored number of transmitted data bursts with a pre-determined limit, and a processor for changing the operation of the transmitter if the monitored number of transmitted data bursts falls outside
- 25 the pre-determined limit.
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32.A radio telephone system according to claim 31, wherein the monitoring means monitors the number of data bursts transmitted over a pre-determined period of time or pre-determined number of frames.

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33.A radio telephone system according to claim 31, wherein the processor controls the power output of the transmitter.

34.A radio telephone system according to claim 33, wherein the processor controls the power output of the transmitter by changing the power classmark of the portable radio communication apparatus.

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35.A radio telephone system according to claim 31, wherein the processor controls the number of data bursts transmitted on time slots in a frame.

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36.A radio telephone system according to claim 35, wherein the number of data bursts transmitted on time slots in a frame is decreased when the monitored number of transmitted data bursts exceeds a pre-determined limit.

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37.A radio telephone system according to claim 31, wherein the portable radio communication apparatus includes the monitoring means, comparator and the processor.

38.A radio telephone system according to claim 31, wherein the radio communication network includes the monitoring means, comparator and the processor.

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39.A radio telephone system comprising a portable radio communication apparatus for communication in a radio communication network employing

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transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the apparatus having a transmitter for transmitting data bursts during one or more of said time slots in a frame, the system including monitoring means for monitoring the transmission power level of the transmitter and comparing means for comparing the monitored transmission power level with a pre-determined limit and a processor for changing the maximum available transmission power level of the communication apparatus in response to the monitored transmission power level.

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40. A radio telephone system according to claim 39, wherein the monitored transmission power level is compared with a pre-determined power transmission level and if the monitored transmission power level is above said pre-determined level then the maximum allowed output transmission power level is decreased by changing the power classmark of the portable radio communication apparatus.

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41. A portable radio communication apparatus operable to communicate with a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the apparatus having a transmitter for transmitting data bursts during one or more of said time slots in a frame, and including monitoring means for monitoring at least one criterion associated with the heat generated by the transmitter, at least one output criterion of the transmitter being responsive to the monitored criterion.

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42. A method for controlling a portable radio communication apparatus for communication with a radio communication network employing transmission by a plurality of carrier frequencies in frames each consisting of a predetermined number of time slots, the apparatus having a

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- transmitter for transmitting data bursts during one or more of said time slots in a frame, the method comprising the steps of the apparatus registering a power classmark with the network, the apparatus monitoring at least one criterion associated with the heat generated by the transmitter,
- 5 the apparatus sending a power classmark change request to the network responsive to the monitored criterion, and the network accordingly changing the power classmark of the portable radio communication apparatus.